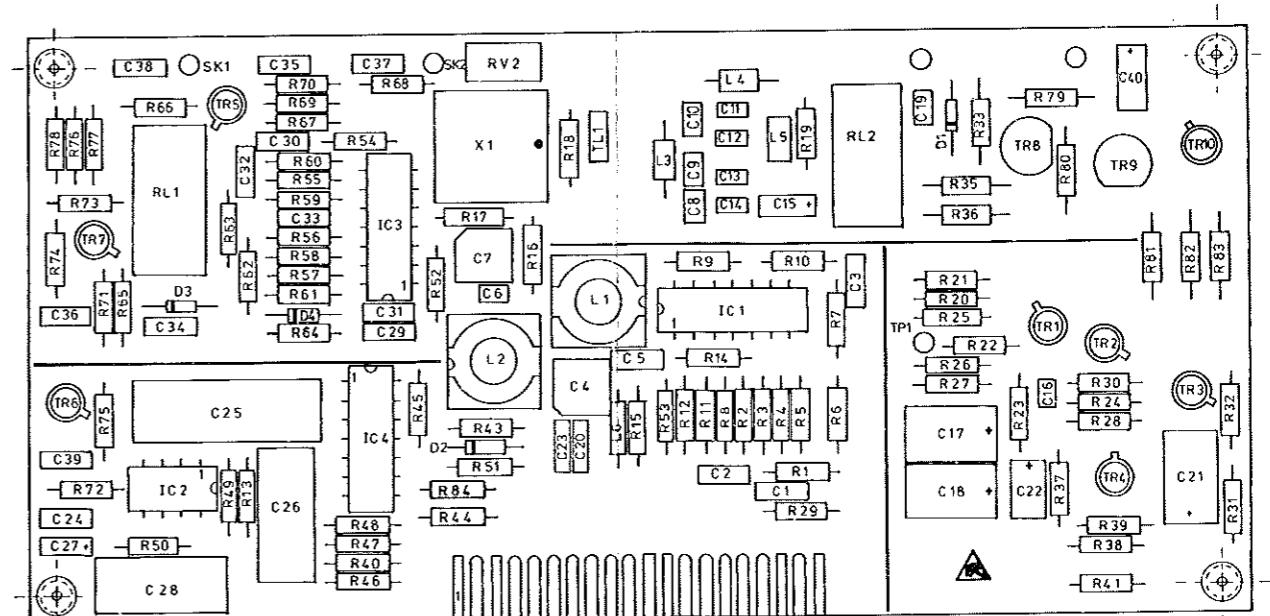


Fig. 23 Circuit Diagram,
Calibration unit, (30)



CIRCUIT REFERENCES TO BE PRECEDED BY
BOARD ASSEMBLY NUMBER.
e.g. R41 BECOMES R3041
C 7 BECOMES C3007

Fig. 24 Component Layout,
Calibration unit, (30)

ASSEMBLY P.C.B. A33 DIVIDER 1

REF.	VALUE	TOL. ±%	RATING	TYPE	PART NO.
R1	29k8	0.5	0W125	MF	0000-7599.174/-
R2	60k4	0.5	0W125	MF	0000-7598.243/-
R3	120k	0.5	0W125	MF	0000-7598.256/-
R4	243k	0.5	0W125	MF	0000-7598.269/-
R5	301k	0.5	0W125	MF	0000-7598.272/-
R6	612k	0.5	0W125	MF	0000-7600.474/-
R7	1M2	5	0W35	CP	0001-0007.297/-
R8	2M4	5	0W35	CP	0000-7601.376/-
R21	10k	1	0W35	MF	0001-0002.137/-
R22	5R62	1	0W35	MF	0001-0003.945/-
C5	470p	10	63	Cer.	0001-0004.669/-
C6	22p	2	63	Cer.	0001-0004.290/-
C7	1n	10	63	Cer.	0001-0004.698/-
C8	1n	10	63	Cer.	0001-0004.698/-
C9	1n	10	63	Cer.	0001-0004.698/-
C10	1n	10	63	Cer.	0001-0004.698/-
C11	1n	10	63	Cer.	0001-0004.698/-
C12	1n	10	63	Cer.	0001-0004.698/-
C13	1n	10	63	Cer.	0001-0004.698/-
C14	1n	10	63	Cer.	0001-0004.698/-
C15	1n	10	63	Cer.	0001-0004.698/-
C16	1n	10	63	Cer.	0001-0004.698/-
C17	1n	10	63	Cer.	0001-0004.698/-
C18	1n	10	63	Cer.	0001-0004.698/-
C19	1n	10	63	Cer.	0001-0004.698/-
C20	1n	10	63	Cer.	0001-0004.698/-
C21	1n	10	63	Cer.	0001-0004.698/-
C22	1n	10	63	Cer.	0001-0004.698/-
C23	1n	10	63	Cer.	0001-0004.698/-
C24	1n	10	63	Cer.	0001-0004.698/-
C25	1n	10	63	Cer.	0001-0004.698/-
C26	1n	10	63	Cer.	0001-0004.698/-
C27	1n	10	63	Cer.	0001-0004.698/-
C28	1n	10	63	Cer.	0001-0004.698/-
C29	1n	10	63	Cer.	0001-0004.698/-
C30	1n	10	63	Cer.	0001-0004.698/-
C31	1n	10	63	Cer.	0001-0004.698/-
C32	1n	10	63	Cer.	0001-0004.698/-
C33	1n	10	63	Cer.	0001-0004.698/-
C39	1n	10	63	Cer.	0001-0004.698/-
C40	100μ	+50-10	25	Elec.	0000-7568.202/-
C41	10μ	+50-10	63	Elec.	0001-0041.693/-
D1			1N4448		0001-0018.493/-
D2			1N4448		0001-0018.493/-
D3			1N4448		0001-0018.493/-
D4			1N4448		0001-0018.493/-
D5			1N4448		0001-0018.493/-
D6			1N4448		0001-0018.493/-
D7			1N4448		0001-0018.493/-
D8			1N4448		0001-0018.493/-
D9			1N4448		0001-0018.493/-
D10			1N4448		0001-0018.493/-
D11			1N4448		0001-0018.493/-
D12			1N4448		0001-0018.493/-
D13			1N4448		0001-0018.493/-
D14			1N4448		0001-0018.493/-

REF.	VALUE	TOL. ±%	RATING	TYPE	PART NO.
D15			1N4448		0001-0018.493/-
D16			1N4448		0001-0018.493/-
IC1			4011		0001-0015.988/-
IC2			4011		0001-0015.988/-
IC3			4011		0001-0015.988/-
IC4			14023		0001-0016.026/-
IC5			14023		0001-0016.026/-
IC6			14023		0001-0016.026/-
IC7			14082		0001-0070.868/-
IC8			14082		0001-0070.868/-
IC9			4012		0001-0065.475/-
IC10			4073		0001-0070.871/-
IC11			4027		0001-0016.042/-
IC12			4160		0000-7660.032/-
IC13			4049		0001-0068.197/-
IC14			4027		0001-0016.042/-
IC15			4011		0001-0015.988/-
IC16			4160		0000-7660.032/-
IC17			4160		0000-7660.032/-
IC18			4027		0001-0016.042/-
IC19			4011		0001-0015.988/-
IC20			4160		0000-7660.032/-
IC21			4160		0000-7660.032/-
IC22			14023		0001-0016.026/-
L1			INDUCTOR		0001-0042.757/-
L2			INDUCTOR		4502-1423.003/4
L3			FERRITE BEAD		0000-7567.737/-
L4			FERRITE BEAD		0000-7567.737/-
L5			FERRITE BEAD		0000-7567.737/-
SK1			SOCKET D.I.L. 40-WAY		
J23 - 8040					0000-7541.711/-
SK2			SOCKET D.I.L. 14-WAY		0000-7518.388/-
A33			P.C.B. DIVIDER 1		4502-0133.006/2

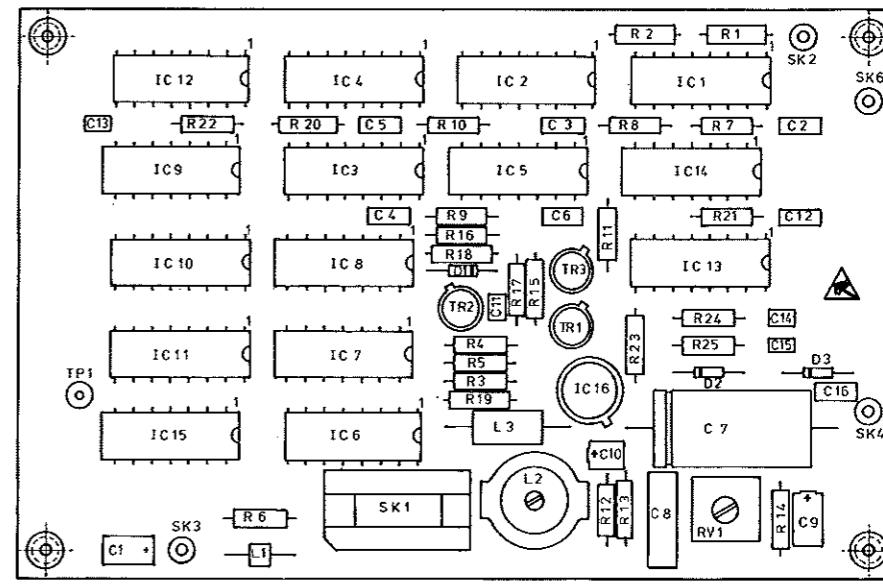


Fig. 25 Component Layout, Divider 2, (34)

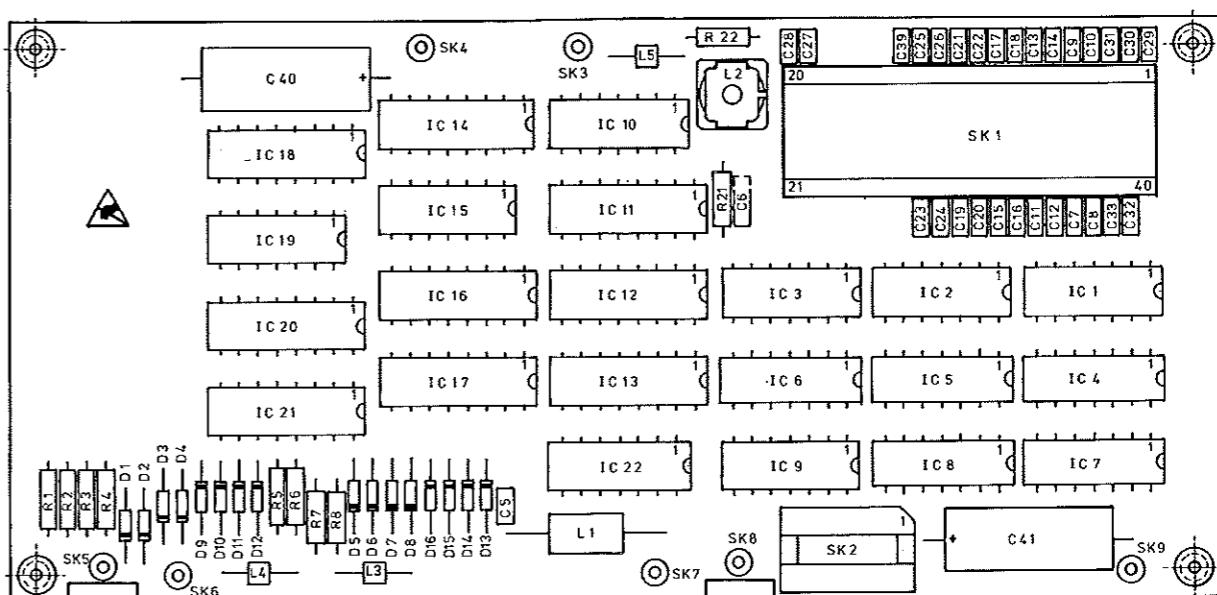
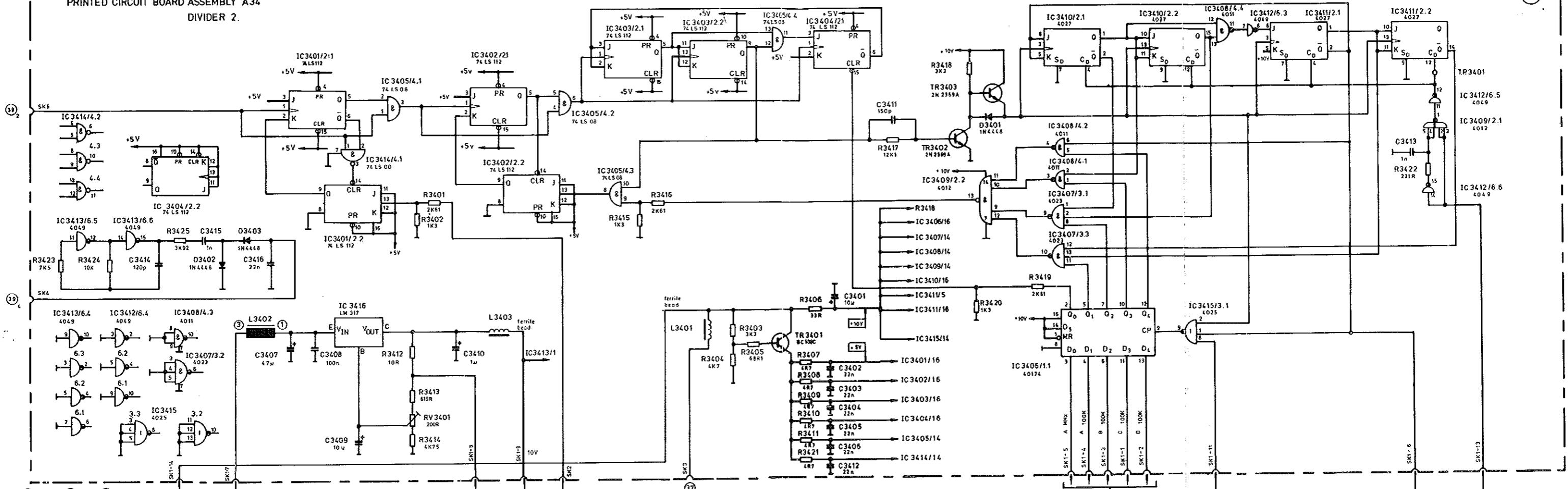
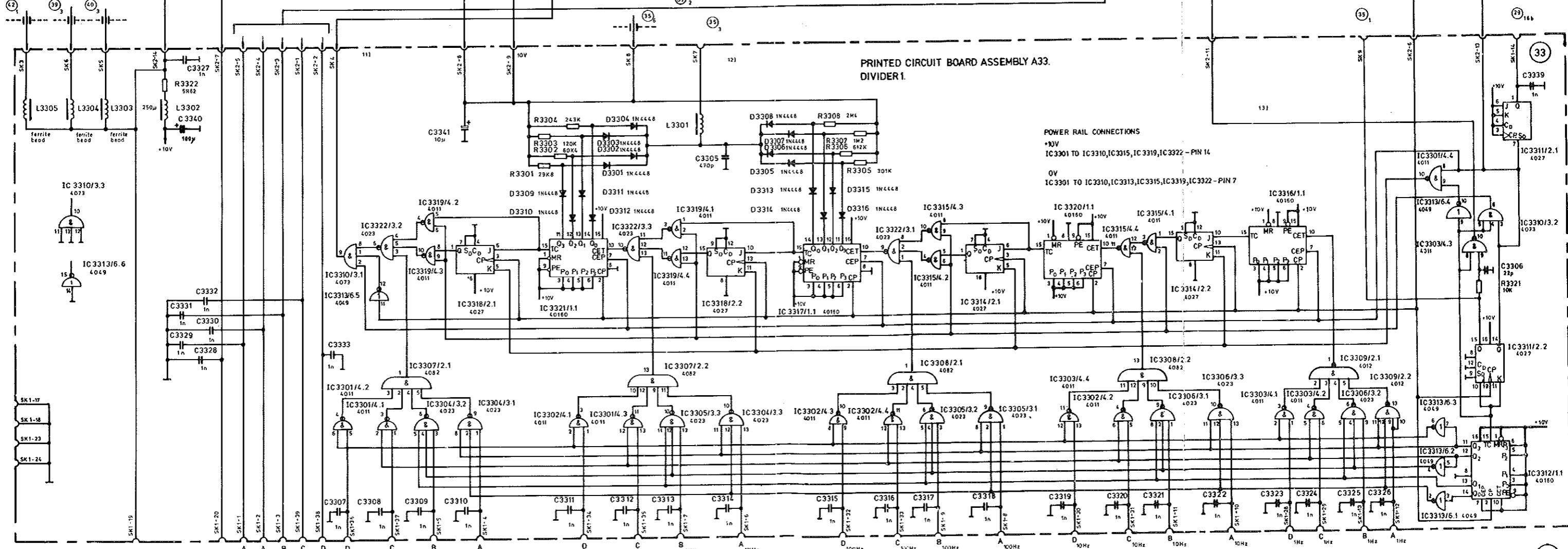


Fig. 26 Component Layout, Divider 1, (33)

PRINTED CIRCUIT BOARD ASSEMBLY A34
DIVIDER 2.



PRINTED CIRCUIT BOARD ASSEMBLY A33.
DIVIDER 1.



101 200kHz CLOCK
111 SUB HARMONIC DETECTION PULSE
121 PHASE COMPENSATION CURRENT
131 PHASE MEASUREMENT TIME
141 DATA CHANGE

Fig. 27 Circuit Diagram, Divider 1,
and Divider 2, 33 34

ASSEMBLY P.C.B. A34 DIVIDER 2

REF.	VALUE	TOL. ± %	RATING	TYPE	PART NO.	REF.	VALUE	TOL. ± %	RATING	TYPE	PART NO.	REF.	VALUE	TOL. ± %	RATING	TYPE	PART NO.		
R1	2k61	1	OW35	MF	0001-0001.565/-	IC10			4027	MF	0001-0016.042/-	R40	3k01	1	OW35	MF	0001-0001.620/-		
R2	1k3	1	OW35	MF	0001-0001.303/-	IC11			4027	MF	0001-0016.042/-	R41	35k7	1	OW35	MF	0001-0002.616/-		
R3	3k3	2	OW25	MF	4980-0000.012/-	IC12			4049	MF	0001-0068.197/-	R42	1M2	5	OW25	CF	0001-0007.297/-		
R4	4k7	2	OW25	MF	0001-0001.811/-	IC13			4049	MF	0001-0068.197/-	R43	100R	1	OW35	MF	0001-0000.537/-		
R5	68R1	2	OW25	MF	0001-0000.427/-	IC14		74 LS 00	0001-0065.695/-	MF			R45	2k7	2	OW25	MF	0000-7558.380/-	
R6	33R	2	OW25	MF	0000-7601.347/-	IC15			4029	MF	0001-0065.488/-	R46	287R	1	OW35	MF	0001-0000.786/-		
R7	4R7	5	OW25	MF	0001-0006.609/-	IC16			LM 317	MF	0000-7596.724/-	R47	22k1	1	OW35	MF	0001-0002.441/-		
R8	4R7	5	OW25	MF	0001-0006.609/-	L1			B62110	MF	0000-7567.737/-	R48	3k01	1	OW35	MF	0001-0001.620/-		
R9	4R7	5	OW25	MF	0001-0006.609/-	L2			INDUCTOR	4502-1429.007/4	MF			R49	4k02	1	OW35	MF	0001-0001.743/-
R10	4R7	5	OW25	MF	0001-0006.609/-	L3			B82114	MF	0001-0042.757/-	R50	1k5	1	OW35	MF	0001-0001.358/-		
R11	4R7	5	OW25	MF	0001-0006.609/-	SK1			SOCKET D.I.L. 14-WAY	0000-7518.388/-	MF			R51	4k02	1	OW35	MF	0001-0001.743/-
R12	10R	1	OW35	MF	0001-0000.074/-	A34			J23 - 2028Z	0000-7518.388/-	MF			R52	475R	1	OW35	MF	0001-0000.964/-
R13	619R	0.5	OW125	MF	0000-7512.245/-				F.C.B. DIVIDER 2	4502-0134.005/2	MF			R53	68R1	1	OW35	MF	0001-0000.427/-
R14	4k75	0.5	OW125	MF	0000-7535.251/-						MF			R54	200R	1	OW35	MF	0001-0000.676/-
R15	1k3	1	OW35	MF	0001-0001.303/-						MF			R55	68R1	1	OW35	MF	0001-0000.427/-
R16	2k61	1	OW35	MF	0001-0001.565/-						MF			R56	475R	1	OW35	MF	0001-0000.964/-
R17	12k1	1	OW35	MF	0001-0002.218/-						MF			R57	3M3	5	OW25	CF	0001-0007.336/-
R18	3k3	2	OW25	MF	4980-0000.012/-						MF			R58	100R	1	OW35	MF	0001-0000.537/-
R19	2k61	1	OW35	MF	0001-0001.565/-						MF			R59	7k5	1	OW35	MF	0001-0002.014/-
R20	1k3	1	OW35	MF	0001-0001.303/-	R1	8k25	1	OW35	MF	0001-0002.056/-	R60	301R	1	OW35	MF	0001-0000.799/-		
R21	4R7	5	OW25	MF	0001-0006.609/-	R2	5k23	1	OW35	MF	0001-0001.866/-	R61	47R	2	OW25	MF	0000-7601.321/-		
R22	221R	1	OW35	MF	0001-0000.715/-	R3	7k15	1	OW35	MF	0001-0001.992/-	R62	3M3	5	OW25	CF	0001-0007.336/-		
R23	7k5	1	OW35	MF	0001-0002.014/-	R4	909R	0.5	OW125	MF	0000-7509.685/-	R63	10M	5	OW33	CF	0001-0005.707/-		
R24	10k	1	OW35	MF	0001-0002.137/-	R5	68R1	1	OW35	MF	0001-0000.427/-	R64	4M7	5	OW33	CF	0001-0005.671/-		
R25	3k92	1	OW35	MF	0001-0001.730/-	R6	27k4	1	OW35	MF	0001-0002.522/-	R65	665k	1	OW35	MF	0000-7518.948/-		
C1	10u	20	25	Tant.	0001-0040.885/-	R7	6k19	1	OW35	MF	0001-0001.934/-	R66	3k3	2	OW25	MF	4980-0000.012/-		
C2	22n	20	100	Cer.	0001-0006.418/-	R8	25k5	0.5	OW125	MF	0000-7599.682/-	R67	1M8	5	OW25	CF	0001-0007.310/-		
C3	22n	20	100	Cer.	0001-0006.418/-	R9	20k	1	OW35	MF	0001-0002.409/-	R81	10k	1	OW35	MF	0001-0002.137/-		
C4	22n	20	100	Cer.	0001-0006.418/-	R10	200K	0.5	OW125	MF	0000-7591.428/-	R82	1M2	5	OW25	CF	0001-0007.297/-		
C5	22n	20	100	Cer.	0001-0006.418/-	R11	562k	0.5	OW125	MF	0000-7598.298/-	R83	100k	1	OW35	MF	0001-0002.991/-		
C6	22n	20	100	Cer.	0001-0006.418/-	R12	196k	0.5	OW125	MF	0000-7598.308/-	C1	33p	2	63	Cer.	0001-0004.342/-		
C7	47u	+50-10%	40	Tant.	0001-0041.758/-	R13	16k5	1	OW35	MF	0001-0002.328/-	C2	22n	20	100	Cer.	0001-0006.418/-		
C8	100n	10	100	PE	0001-0010.365/-	R14	7k15	1	OW35	MF	0001-0001.992/-	C3	100n	10	100	PE	0001-0010.365/-		
C9	10u	20	25	Tant.	0001-0040.885/-	R15	226R	0.5	OW125	MF	0000-7515.174/-	C4	10p	2	63	Cer.	0001-0004.177/-		
C10	1u	20	35	Tant.	0001-0040.704/-	R16	68R1	1	OW35	MF	0001-0000.427/-	C5	22n	20	100	Cer.	0001-0006.418/-		
C11	150p	2	63	Cer.	0001-0004.575/-	R17	3k83	1	OW35	MF	0001-0001.727/-	C6	22n	20	100	Cer.	0001-0006.418/-		
C12	22n	20	100		0001-0006.418/-	R18	7k32	1	OW35	MF	0001-0002.001/-	C7	10p	2	63	Cer.	0001-0004.177/-		
C13	1n	20	100		0001-0004.698/-	R19	6k34	0.5	OW125	MF	0000-7512.339/-	C8	10u	2	40		0000-7603.418/-		
C14	120p	2	63	Cer.	0001-0004.562/-	R20	105k	0.5	OW125	MF	0000-7598.285/-	C10	330n	10	100	PE	0001-0010.420/-		
C15	1n	20	100		0001-0004.698/-	R21	26k7	0.5	OW125	MF	0000-7528.747/-	C11	220n	10	100	PE	0001-0010.404/-		
C16	22n	20	100	Cer.	0001-0006.418/-	R22	54k9	1	OW35	MF	0001-0002.784/-	C12	4u7	20	6.3	Tant.	0001-0040.801/-		
TR1				BC109 C	0000-7602.126/-	R23	86k6	1	OW35	MF	0001-0002.959/-	C13	1n5	10	63	Cer.	0001-0004.711/-		
TR2				2N2369A	0000-7542.066/-	R24	1k5	1	OW35	MF	0001-0001.358/-	C14	22n	10	100	PE	0001-0010.255/-		
TR3				2N2369A	0000-7542.066/-	R25	68R1	1	OW35	MF	0001-0000.427/-	C15	100p	2	63	Cer.	0001-0004.517/-		
D1				1N4448	0001-0018.493/-</														

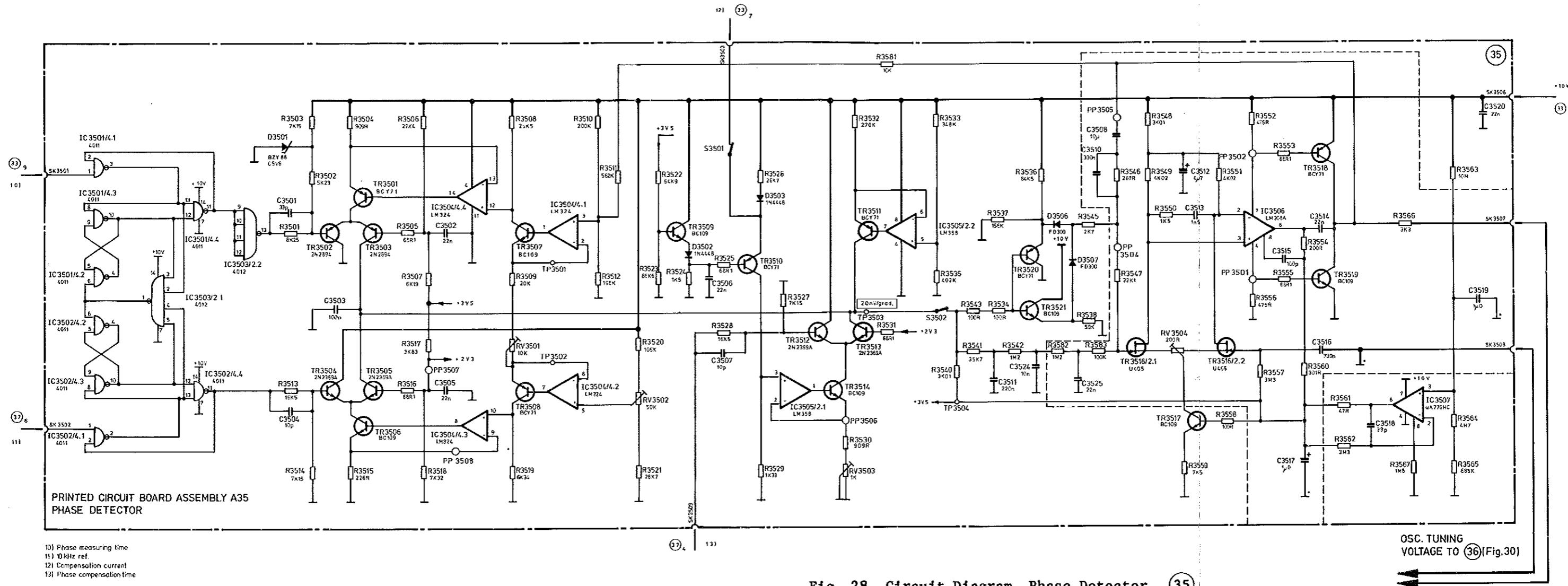
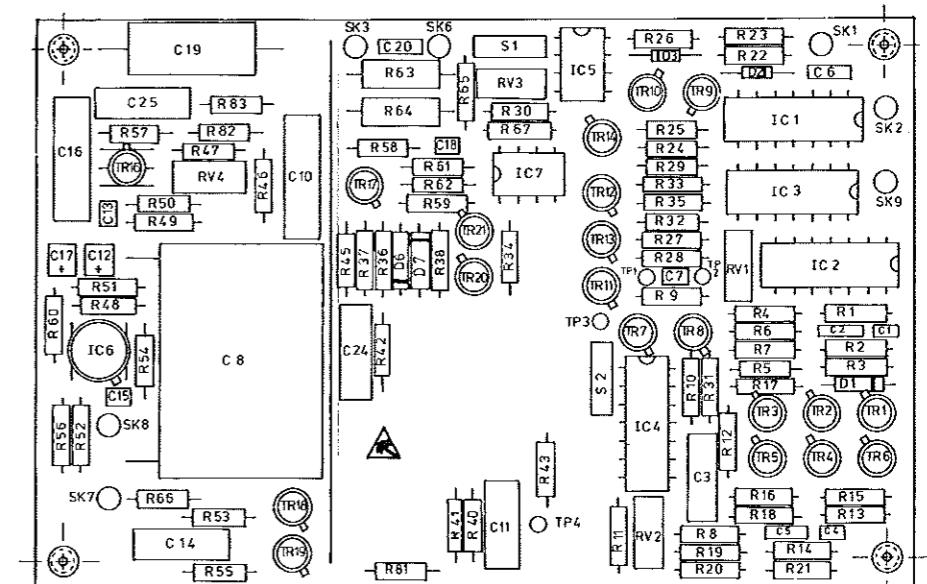


Fig. 28 Circuit Diagram, Phase Detector, 35

REF.	VALUE	TOL. ± %	RATING	TYPE	PART NO.
C24	10n	10	100	PE	0001-0010.213/-
C25	22n	20	100	PE	0001-0010.255/-
TR1				BCY71	0001-0016.534/-
TR2				2N2894	0001-0016.929/-
TR3				2N2894	0001-0016.929/-
TR4				2N2369A	0000-7542.066/-
TR5				2N2369A	0000-7542.066/-
TR6				BC109	0000-7602.029/-
TR7				BC109	0000-7602.029/-
TR8				BCY71	0001-0016.534/-
TR9				BC109	0000-7602.029/-
TR10				BCY71	0001-0016.534/-
TR11				BCY71	0001-0016.534/-
TR12				2N2369A	0000-7542.066/-
TR13				2N2369A	0000-7542.066/-
TR14				BC109	0000-7602.029/-
TR16				U405	0000-7567.863/-
TR17				BC109	0000-7602.029/-
TR18				BCY71	0001-0016.534/-
TR19				BC109	0000-7602.029/-
TR20				BCY71	0001-0016.534/-
TR21				BC109	0000-7602.029/-

REF.	VALUE	TOL. ± %	RATING	TYPE	PART NO.
D1				BZY 88CSV6	0001-0018.859/-
D2				1N4448	0001-0018.493/-
D3				1N4448	0001-0018.493/-
D6				FDH 300	0001-0018.192/-
D7				FDR 300	0001-0018.192/-
RV1	10k	10	LIN	OW2	Var.
RV2	50k	20	LIN	OW2	Var.
RV3	1k	20	LIN	OW2	Var.
RV4	200R	10	LIN	OW2	Var.
IC1				4011	0001-0015.988/-
IC2				4011	0001-0015.988/-
IC3				4012	0001-0065.475/-
IC4				LM 324	0000-7578.085/-
IC5				LM 358	0000-7581.140/-
IC6				LM 308 A	0000-7537.071/-
IC7				μA 776 HC	0000-7604.425/-
S1				09100003	0000-7567.999/-
S2				09100003	0000-7567.999/-
				P.C.B. PHASE DETECTOR	4502-0135.004/2



COMPONENT REFERENCES TO BE PRECEDED
BY BOARD ASSEMBLY NUMBER eg TR14 BECOMES D3514
D7 BECOMES D3507

Fig. 29 Component Layout,
Phase Detector, 35

ASSEMBLY P.C.B. A36 4 - 4.62Mhz V.C.O.

REF.	VALUE	TOL. ± %	RATING	TYPE	PART NO.
R1	1k8	2	0W25	MF	0001-0015.510/-
R2	221k	1	0W35	MF	0001-0003.217/-
R3	221k	1	0W35	MF	0001-0003.217/-
R4	100R	1	0W35	MF	0001-0000.537/-
R5	4k7	2	0W25	MF	0001-0001.811/-
R6	68k1	1	0W35	MF	0001-0000.427/-
R7	100R	1	0W35	MF	0001-0000.537/-
R8	10k	1	0W35	MF	0001-0002.137/-
R9	100R	1	0W35	MF	0001-0000.537/-
R10	47k	2	0W25	MF	0000-7558.393/-
R11	39k2	1	0W35	MF	0001-0002.658/-
R12	1k	1	0W35	MF	0001-0001.219/-
R13	33k	2	0W25	MF	4980-0000.009/-
R14	470R	2	0W25	MF	0000-7560.608/-
R15	4k7	2	0W25	MF	0001-0001.811/-
R16	4R7	5	0W25	MF	0001-0006.609/-
R17	1k21	1	0W35	MF	0001-0001.277/-
R18	100R	1	0W35	MF	0001-0000.537/-
C1	100n	10	100	PE	0001-0010.365/-
C2	100n	10	100	PE	0001-0010.365/-
C4	2μ2	5	63		0000-7605.699/-
C5	6μ8	20	6.3	Tant.	0001-0040.830/-
C6	10n	20	40	Cer.	0001-0004.818/-
C7	10n	20	40	Cer.	0001-0004.818/-
C8	100n	10	100	PE	0001-0010.365/-
C9	10n	20	40	Cer.	0001-0004.818/-
C10	1n	20	63	Cer.	0001-0004.698/-
C11	22μ	20	16	Tant.	0001-0040.966/-
C12	100n	10	100	PE	0001-0010.365/-
C13	10μ	20	16	AI.Ox.	0000-7602.773/-
C14	100p	2	63	PS	0000-7629.523/-
C15	100p	2	63	PS	0000-7629.523/-
TR1			BF 245 A		0001-0016.628/-
TR2			BF 245 A		0001-0016.628/-
TR3			BF 245 A		0001-0016.628/-
TR4			BC109		0000-7602.029/-
TR5			2N2369A		0000-7542.066/-
TR6			BC109		0000-7602.029/-
D1			KV1225		0000-7630.583/-
D3			1N5711		0001-0018.228/-
D4			1N5711		0001-0018.228/-
RV1	50k	20	0W5		0000-7601.635/-
RV2	1M	20	0W5		0000-7601.619/-
L1	6μH		L24/4502/D		4502-1424.002/4
L2			L26/L27/4502/D		4502-1426.000/4
L3			L26/L27/4502/D		4502-1426.000/4
L4	100μH		210/16471		0000-7556.298/-
L5	200μH		125/4502/D		4502-1425.001/4
A36			P.C.B.		
			4-4.62MHz V.C.O.		4502-0136.003/3

ASSEMBLY P.C.B. A39 BUFFER

REF.	VALUE	TOL. ± %	RATING	TYPE	PART NO.
R1	68R1	1	0W35	MF	0001-0000.427/-
R2	22k1	1	0W35	MF	0001-0002.441/-
R3	68R1	1	0W35	MF	0001-0000.427/-
R4	27k	2	0W25	MF	0000-7558.377/-
R5	68R1	1	0W35	MF	0001-0000.427/-
R6	5k62	1	0W35	MF	0001-0001.895/-
R7	5k62	1	0W35	MF	0001-0001.895/-
R8	68R1	1	0W35	MF	0001-0000.427/-
R9	1k	1	0W35	MF	0001-0001.219/-
R10	18k	2	0W25	MF	0001-0027.484/-
R11	18k	2	0W25	MF	0001-0027.484/-
R12	6k81	1	0W35	MF	0001-0001.976/-
R13	2k21	1	0W35	MF	0001-0001.497/-
R14	27R	2	0W25	MF	0001-0065.200/-
R15	1k8	2	0W25	MF	0001-0014.510/-
R16	18k	2	0W25	MF	0001-0027.484/-
R17	18k	2	0W25	MF	0001-0027.484/-
R18	100k	2	0W25	MF	0001-0002.991/-
C1	4μ7	20	10	Tant.	0001-0040.801/-
C2	22n	20	40	Cer.	0001-0006.418/-
C3	1n	20	100	Cer.	0001-0004.698/-
C4	10n	20	100	Cer.	0001-0004.818/-
C5	10n	20	100	Cer.	0001-0004.818/-
C6	1n	20	100	Cer.	0001-0004.698/-
TR1			2N2369A MF		0000-7542.066/-
TR2			2N2894		0001-0016.929/-
TR3			2N2894		0001-0016.929/-
TR4			2N2894		0001-0016.929/-
TR5			2N2894		0001-0016.929/-
TR6			2N2894		0001-0016.929/-
TR1			2N2369A		0000-7542.066/-
TR2			2N3251		0001-0017.342/-
TR3			2N2369A		0000-7542.066/-
TR4			2N3251		0001-0017.342/-
TR5			BC109		0000-7602.029/-
TR6			BC109		0000-7602.029/-
L1			590μH		L28/4502/D 4502-1428.008/4
A39			P.C.B. BUFFER		4502-0139.003/3

ASSEMBLY P.C.B. A40 SYNTHESISER AMPLIFIER

REF.	VALUE	TOL. ± %	RATING	TYPE	PART NO.
R1	5k62	1	0W35	MF	0001-0001.895/-
R2	24k9	1	0W35	MF	0001-0002.483/-
R3	68R1	1	0W35	MF	0001-0000.427/-
R4	3k3	2	0W25	MF	4980-0000.012/-
R5	1k21	1	0W35	MF	0001-0001.277/-
R6	1k65	1	0W35	MF	0001-0059.232/-
R7	51R1	1	0W35	MF	0001-0065.284/-
R8	75R	1	0W35	MF	0001-0000.456/-
R9	237R	1	0W35	MF	0001-0003.754/-
R10	68R1	1	0W35	MF	0001-0000.427/-
R11	21k	1	0W35	MF	0001-0002.425/-
R12	76k8	1	0W35	MF	0001-0002.917/-
R13	68R1	1	0W35	MF	0001-0000.427/-
R14	68R1	1	0W35	MF	0001-0000.427/-
R15	8R25	1	0W35	CF	0000-7518.854/-
R16	68R1	1	0W35	MF	0001-0000.427/-
C1	1n	20	100	Cer.	0001-0004.698/-
C2	100n	10	100	PE	0001-0010.365/-
C3	10n	2	100	Cer.	0001-0004.818/-
C4	4μ7	20	10	Tant.	0001-0040.801/-
C5	10μ	+50-10	63	Elect.	0001-0041.693/-
C6	22n	20	40	Cer.	0001-0006.418/-
TR1			2N2369A		0000-7542.066/-
TR2			2N3251		0001-0017.342/-
TR3			2N2369A		0000-7542.066/-
TR4			2N3251		0001-0017.342/-
TR5			BC109		0000-7602.029/-
TR6			BC109		0000-7602.029/-
L1			L28/4502/D		4502-1428.008/4
A40			P.C.B. SYNTHESISER AMPLIFIER		

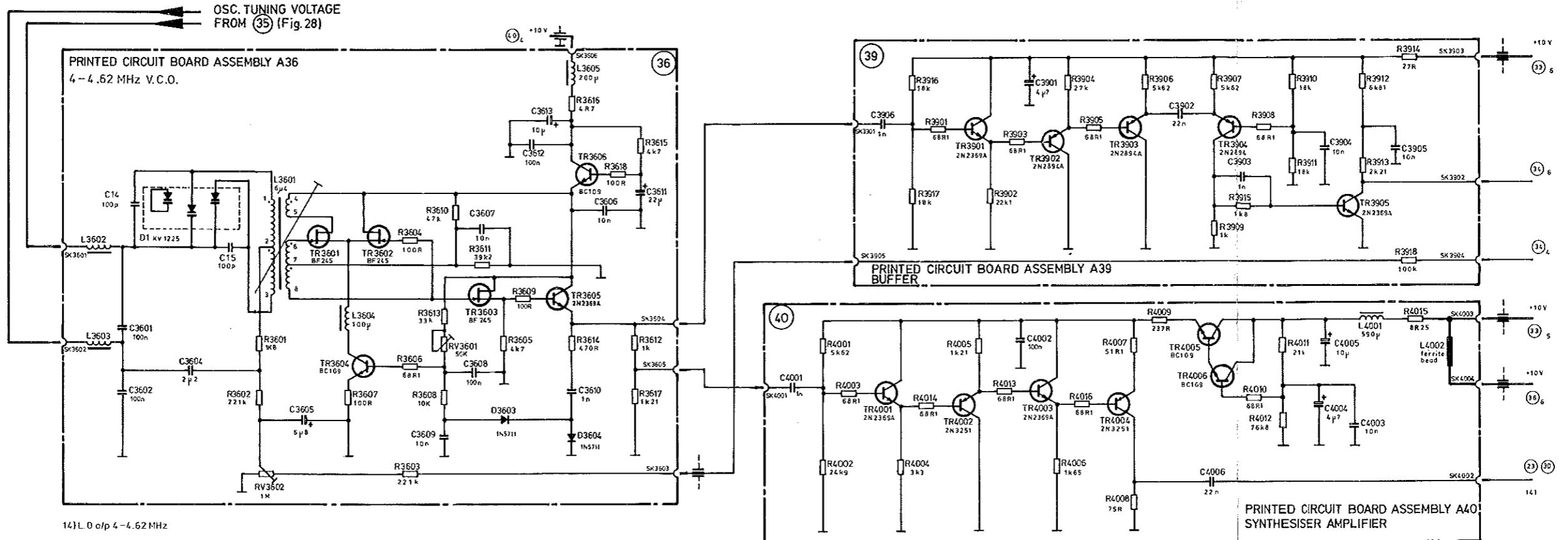
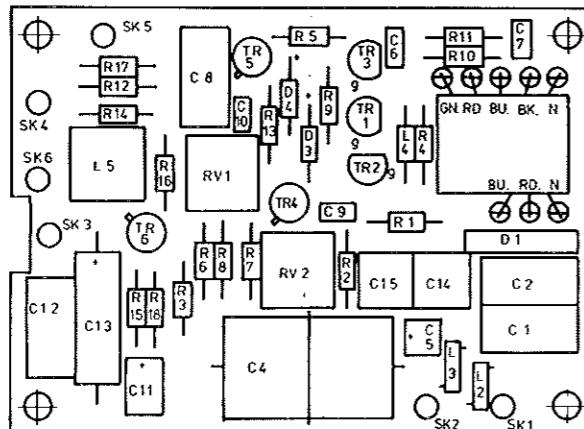
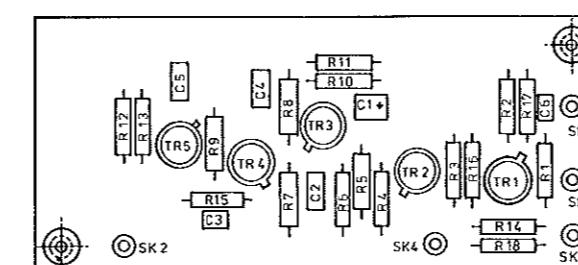


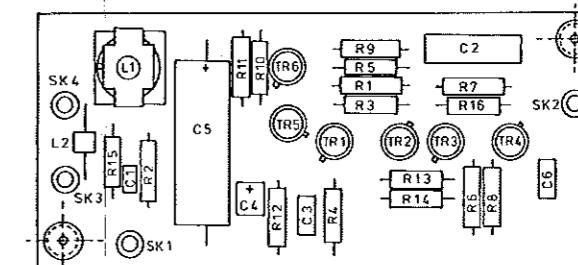
Fig. 30 Circuit Diagram,
4...4.62MHz V.C.O., (36);
Buffer, (39) and
Synthesiser Amplifier, (40)



CIRCUIT REFERENCES TO BE PRECEDED
BY BOARD ASSEMBLY NUMBERS.
e.g. R15 BECOMES R3615
C9 BECOMES C3609.



CIRCUIT REFERENCES TO BE PRECEDED
BY BOARD ASSEMBLY NUMBERS.
e.g. R11 BECOMES R3911
C1 BECOMES C3901.



CIRCUIT REFERENCES TO BE PRECEDED
BY BOARD ASSEMBLY NUMBERS.
e.g. R15 BECOMES R4015
C5 BECOMES C4005.

Fig. 31 Component Layout, 4...4.62MHz V.C.O., (36)

Fig. 32 Component Layout, Buffer Amp., (39)

Fig. 33 Component Layout,
Synthesiser Amplifier, (40)

ASSEMBLY P.C.B. A38 CRYSTAL OSCILLATOR

REF.	VALUE	TOL. ± %	RATING	TYPE	PART NO.
R7	100R	1	0W35	MF	0001-0000.537/-
R11	3M3	5	0W25	CF	0001-0007.336/-
R12	5k62	1	0W35	MF	0001-0001.895/-
R13	5k62	1	0W35	MF	0001-0001.895/-
R14	270R	2	0W25	MF	0000-7559.499/-
R15	270R	2	0W25	MF	0000-7559.499/-
R16	33R	2	0W25	MF	0000-7601.347/-
R18	301k	1	0W35	MF	0001-0062.025/-
R19	68R1	1	0W35	MF	0001-0000.427/-
R20	2k21	1	0W35	MF	0001-0001.497/-
R22	12k1	1	0W35	MF	0001-0002.218/-
R23	8k55	1	0W35	MF	0001-0002.056/-
R24	1k	1	0W35	MF	0001-0001.219/-
R25	10R	1	0W35	MF	0001-0000.074/-
R26	1k	1	0W35	MF	0001-0001.219/-
R27	10k	1	0W35	MF	0001-0002.137/-
R32	100k	1	0W35	MF	0001-0002.991/-
R33	10k	1	0W35	MF	0001-0002.137/-
R34	10k	1	0W35	MF	0001-0002.137/-
R35	562R	1	0W35	MF	0001-0001.015/-
C4	22μ	20	16	Tant.	0001-0040.966/-
C6	1n	10	63	Cer.	0001-0004.698/-
C7	22n	20	40	Cer.	0001-0006.418/-
C8	10n	20	40	Cer.	0001-0004.818/-
C9	330p	2	63	Cer.	0001-0004.630/-
C10	150p	2	63	Cer.	0001-0004.575/-
C11	120p	2	63	Cer.	0001-0004.562/-
C12	3μ3	20	16	Tant.	0001-0040.775/-
C13	22μ	20	16	Tant.	0001-0040.966/-
C14	3μ3	20	16	Tant.	0001-0040.775/-
C15	220p	2	63	Cer.	0001-0004.601/-
C16	220p	2	63	Cer.	0001-0004.601/-
C17	1n	10	63	Cer.	0001-0004.698/-
C18	10n	20	40	Cer.	0001-0004.818/-
C21	1n	10	63	Cer.	0001-0004.698/-
C22	1n	10	63	Cer.	0001-0004.698/-
C23	10n	20	40	Cer.	0001-0004.818/-
C24	22p	2	63	Cer.	0001-0004.290/-
TR2			2N2369A		0000-7542.066/-
TR3			2N2369A		0000-7542.066/-
TR4			BC109		0000-7602.029/-
D5			1N914 or 1N4448		0001-0018.493/-
D6			1N914 or 1N4448		0001-0018.493/-
IC2			4013		0001-0015.991/-
LC4			4077		0000-7565.218/-
IC5			4024		0001-0016.039/-
VCl	2 - 18p	300	809 ~ 05003		0000-7598.463/-
L1	12.7μH		INDUCTOR		4502-1431.008/4
L2	52.7μH		INDUCTOR		4502-1432.007/4
XLI	8MHz		FILTER		4502-9702.001/4
A38			P.C.B. CRYSTAL OSCILLATOR		4502-0138.001/3

ASSEMBLY P.C.B. A37 DIVIDER 3

REF.	VALUE	TOL. ± %	RATING	TYPE	PART NO.
R1	18k	2	0W25	MF	0001-0027.484/-
R2	18k	2	0W25	MF	0001-0027.484/-
R3	68R1	1	0W35	MF	0001-0000.427/-
R4	5k62	1	0W35	MF	0001-0001.895/-
R5	5k62	1	0W35	MF	0001-0001.895/-
R6	681R	1	0W35	MF	0001-0001.086/-
R7	68R1	1	0W35	MF	0001-0000.427/-
R8	18k	2	0W25	MF	0001-0027.484/-
R9	18k	2	0W25	MF	0001-0027.484/-
R10	1k8	2	0W25	MF	0001-0014.510/-
R11	22k1	1	0W35	MF	0001-0002.441/-
R12	15R	1	0W35	MF	0001-0014.879/-
C1	100n	20	40	PE	0000-7639.144/-
C2	1n	10	63	Cer.	0001-0004.698/-
C3	10n	20	40	Cer.	0001-0004.818/-
C4	33μ	20	6.3	Tant.	0001-0040.995/-
TR1			2N3251		0001-0017.342/-
TR2			2N3251		0001-0017.342/-
TR3			2N2369A		0000-7542.066/-
IC1			4518		0001-0016.178/-
IC2			40175		0000-7529.416/-
IC3			4011		0001-0015.988/-
L1			INDUCTOR		0000-7567.737/-
L2			INDUCTOR		4502-1430.009/4
A37			P.C.B. DIVIDER 3		4502-0137.002/3